

REMARKS

Claims 1, 8-10, 13 and 14 are pending in this application. By this Amendment, claims 1 and 10 are amended and claims 2-7, 11 and 12 are canceled. Claims 1 and 10 are amended to incorporate the subject matter of dependent claims 3 and 4, and 11 and 12 respectively. The Amendments introduce no new matter. Claims 3, 4, 11 and 12 are canceled without prejudice to, or disclaimer of, the subject matter recited in those claims. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 because the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments simply incorporate previously examined subject matter into the independent claims; and (c) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

Applicants appreciate the courtesies shown to Applicants' representatives during the February 23 personal interview by Examiner Green and Supervisory Patent Examiner Porta. Applicants' separate record of the summary of the substance of the personal interview is incorporated into the following remarks.

Claims 1, 3, 4, 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,581,090 to Brown in view of U.S. Patent No. 5,118,948 to Ito et al. ("Ito"), and further in view of U.S. Patent Publication 2006/0065844 to Zelakiewicz et al. ("Zelakiewicz"). Claims 10-14 are rejected under 35 U.S.C. §103(a) as being unpatentable

over Brown in view of Ito and further in view of U.S. Patent No. 7,339,170 to Deliwala.

These rejections are respectfully traversed.

Claim 1 as amended now recites, among other features, a direction finding radiation detector for detecting a direction of incidence of radioactive rays, the detector comprising: three or more scintillators, formed by splitting a single scintillator in a circumferential direction and being arranged to overlap circumferentially, such that: (1) the scintillators are shadowed by each other from radioactive rays incident in circumferential directions, (2) the light emitted from one of the scintillators is not incident on the other scintillators; and (3) the direction of incidence is detected all around in the range of 0° to 360°.

Because claim 1 is amended to incorporate the subject matter of canceled claim 4, the remainder of this discussion will be directed to the Office Action's rejection of claim 4. The Office Action asserts that Brown, as modified by Ito and Zelakiewicz teaches many of the features recited in independent claim 1. The Office Action alleges that Brown, at col. 4, lines 41-46, teaches features that can reasonably be considered to correspond to the recited plurality of scintillators formed by splitting a single scintillator in a circumferential direction, as recited in independent claims 1 and 10. This analysis of the Office Action fails for at least the following reason.

Brown, at col. 4, lines 41-46, merely teaches scintillation crystals 23, 24 and 25 that have an arcuate outer surface covering approximately 120° of arc so that the entire array forms a circle. There is nothing in Brown that can reasonably be considered to teach, or to have suggested, that the scintillation crystals 23, 24 and 25 are formed from a single scintillator.

Furthermore, it would not be obvious to modify Brown to disclose this feature. The instant specification explains that an advantage to forming the plurality of scintillators from a single scintillator is that splitting a single scintillator enables uniform characteristics

throughout the scintillator and manufacturing the plurality of scintillators is easier than growing individual scintillator crystals that are later assembled in the arrangement taught in Brown. Brown does not disclose the criticality of the choice of forming the recited scintillators from a single scintillator. As such, Brown does not suggest this feature either.

For at least the foregoing reason, and because neither Ito, Zelakiewicz nor Deliwala is applied in a manner that can reasonably be considered to make up for the above-identified shortfall in Brown as applied to the subject matter of the pending claims, no combination of the currently-applied references can reasonably be considered to teach, or to have suggested, the combinations of all of the features recited in independent claims 1 and 10. Further, dependent claims 8, 9, 13 and 14 would also not have been suggested by the asserted combinations of references for at least the respective dependence of these claims on independent claims 1 and 10, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejections of claims 1, 8-10, 13 and 14 under 35 U.S.C. §103(a) over the currently-applied references are respectfully requested.

Applicants' representatives presented the above arguments to Examiners Green and Porta during the February 23 personal interview. The Examiners indicated that they would consider Applicants position upon submission of a formal response.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 8-10, 13 and 14 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: March 2, 2009

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